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10/566,148	09/18/2006	Edward W. Taylor Jr	06821/08339	1957

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EXAMINER
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NEGRELLI, KARA B

ART UNIT	PAPER NUMBER
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1766

NOTIFICATION DATE	DELIVERY MODE
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02/07/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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**ADVISORY ACTION**

***Response to Amendment***

1. Applicant's arguments, see page 4, filed January 31, 2011, with respect to the rejection of claim 93 under 35 U.S.C. 112, second paragraph have been fully considered and are persuasive in light of the amendment to claim 93 to now depend from claim 92. The rejection of claim 93 under 35 U.S.C. 112, second paragraph has been withdrawn.
2. It is noted that the limitations of claims 92-94 are addressed in paragraphs 13-14 of the previous office action. It is further noted that because claim 93 is rejected, there was a typographical error in the rejection statement of paragraph 9 of the action. The claim is addressed and is rejected in paragraphs 13-14. The claim was also included in the office action summary form PTO-326.
3. The prior art rejections of claims 72-106 set forth in paragraphs 9-31 of the previous office action mailed October 29, 2010 are maintained.

***Response to Arguments***

4. Applicant's arguments filed January 31, 2011 have been fully considered but they are not persuasive.
5. Applicant argues that the working examples of Pollock show foaming at temperatures of 200°F (93°C). Applicant argues that the working examples of Pollack "clearly do not suggest that epoxy resin foams made with a sulfonyl hydrazide blowing agent can be made to foam at temperatures far below the traditional decomposition

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temperatures of these blowing agents if, but only if, certain polyamine and/or polyamide curing agents are used for curing the epoxy resin forming the foam.”

6. Applicants' arguments are not persuasive. While it is noted that Pollack may not exemplify foaming and curing of epoxy resin based foams at room temperature, this does not negate a finding of obviousness under 35 USC 103 since a preferred embodiment such as an example is not controlling. Rather, all disclosures "including unpreferred embodiments" must be considered. *In re Lamberti* 192 USPQ 278, 280 (CCPA 1976) citing *In re Mills* 176 USPQ 196 (CCPA 1972). Therefore, it would have been obvious to one of ordinary skill in the art to foam and partially cure a foamable, curable resin **such as a polyepoxide** (column 2, lines 24-26) using a sulfonyl hydrazide blowing agent (column 12, lines 61-67) and a polyamide curing agent such as polyamines (column 12, lines 4-41), said foaming and partial curing which may occur at a relatively low temperature such as room temperature (column 3, lines 5-11 and column 2, lines 40-43), given that Pollack expressly teaches this. The result cannot be unexpected when it is explicitly disclosed in the reference.

7. Applicant asserts that there is no disclosure in Pollack indicating what particular epoxy resins, what particular blowing agents, what particular conditions, and what other particular chemicals or approaches must be selected to cause an epoxy resin to foam at temperatures below the normal decomposition temperature of the blowing agents used. This is not persuasive. Each and every element which is applicant asserts is missing from Pollack is contained in this single reference.

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8. Pollock et al. teach a method for producing a foam comprising foaming and curing a polyepoxide resin with closed cells. A resin mixture or system which is hardenable and curable can be given its initial cure at a relatively low temperature such as room temperature (**explicitly** taught at column 2, lines 40-44 and column 3, lines 5-11). Pollock et al. teach that polymeric epoxide resin preferably comprise bisphenol A (column 9, lines 27-30).

9. It is particularly preferable in the invention of Pollock et al. that the polyepoxides are reacted with a small amount of curing agent (forming a binder) less than the amount necessary to harden and cure the resin. The polyepoxide is reacted prior to foaming and mixing with a hardening curing agent (column 11, lines 49-52). **A preferred curing agent is an amine curing agent used in combination with the bisphenol A** (column 12, lines 33-40). Examples of the **blowing agents useful in the invention of Pollock et al. include Celogen blowing agents such as, for example, benzenesulfonylhydrazide** blowing agents (column 12, lines 60-67). Celogen blowing agents also include p-toluenesulfonylhydrazide. The blowing agent may be present in an amount of 10 to 30 parts by weight per 100 parts of the polyepoxide resin. The curing agent may be present in an amount of 15 to 35 parts by weight per 100 parts epoxy resin. Pollock et al. further teach the incorporation of a suitable filler such as titanium dioxide, which is described in the instant specification as an endothermic filler which provides fire retardant properties to the foam to which it is added (see column 14, lines 35-41).

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10. **In an embodiment of the invention of Pollack et al., the thermosetting resin is mixed with a foaming agent and other fillers at a relatively low temperature usually in the range of from 70°F to 180°F** (about 21°C to about 82°C) for a time sufficient to foam and partially cure the mixture (column 15, lines 33-45). As discussed in the invention of Pollack et al., the partially cured resin according to the invention would cure at room temperature over a prolonged period of time (see column 2, lines 19-25, lines 39-42, and lines 56-58). The temperature at which the foam of Pollack et al. is foamed and cured overlaps the instantly claimed ranges of 1°C to 60°C, 1°C to 40°C, and 15°C to 30°C. Pollock et al. teach a method for producing a foam comprising foaming and curing a polyepoxide resin with closed cells. A resin mixture or system which is hardenable and curable can be given its initial cure at a relatively low temperature such as room temperature. The partially cured resin according to the invention would cure at room temperature over a prolonged period of time (see column 2, lines 19-25, lines 39-42, and lines 56-58). According to the invention of Pollock, the resin is mixed with a foaming agent in an amount sufficient to develop the desired foam. The mixture is B-staged by curing at a relatively low temperature (Pollack describes a "relatively low temperature" as room temperature, see column 2, lines 40-41). The temperature is maintained for a time sufficient to foam and partially cure to produce closed-cell foam material (see column 3, lines 6-11).
11. There are a finite number of polymer resins, curing agents, blowing agents, and temperatures employed in the Pollack reference. Each of these finite embodiments is obvious based on their disclosure in the single reference. Therefore, it is erroneous to

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say that Pollack is not enabling for foaming and curing an epoxy resin at room temperature. "When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable. Once such a reference is found, the burden is on applicant to provide facts rebutting the presumption of operability. *In re Sasse*, 629 F.2d 675, 207 USPQ 107 (CCPA 1980)." See MPEP 2121 (I). Additionally, even if Pollack was not enabling (and this examiner is by no means saying Pollack is not enabling), "a non-enabling reference may qualify as prior art for the purpose of determining obviousness under 35 U.S.C. 103." *Symbol Techs. Inc. v. Opticon Inc.*, 935 F.2d 1569, 1578, 19 USPQ2d 1241, 1247 (Fed. Cir. 1991).

12. Furthermore, Pollack explicitly teaches the result which is allegedly unexpected, and because Pollack teaches the result, it cannot be unexpected. The decomposition of the blowing agent is not evidence that it will not react. Pollack teaches that it can and will react at relatively low temperatures, including room temperature. Applicant has not provided evidence that the foam of Pollack, which may contain the same epoxy resin, curing agent, and blowing agent of as taught in the instant invention, does not foam and cure at room temperature. It is again noted that preferred embodiments such as examples are not limiting. Therefore, applicants' arguments filed January 31, 2011 are incorrect and not persuasive.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARA NEGRELLI whose telephone number is (571)270-7338. The examiner can normally be reached on Monday through Thursday 9:30 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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